

What is claimed is:

1. A method for constructing a program association table (PAT) when reducing a multiplexed data stream, comprising the steps of:

receiving at a transcoder an inbound multiplexed data stream having an all-inclusive PAT, a plurality of predefined multiplexed data stream subgroups, and a plurality of hidden PATs, each hidden PAT identified by a unique packet identifier (PID) and associated with an allowable predefined combination of said multiplexed data stream subgroups;

selecting one hidden PAT corresponding to a desired combination of multiplexed data stream subgroups;

determining the PID makeup of the desired multiplexed data stream subgroup combination from the selected hidden PAT;

discarding one or more of the all-inclusive PAT, unused hidden PATs, and any subgroups not contained in the desired multiplexed data stream subgroup combination;

re-mapping the selected hidden PAT to a predetermined PID; and

outputting the re-mapped PAT from the transcoder with the desired multiplexed data stream subgroup combination.

2. A method in accordance with claim 1, wherein the predetermined PID comprises the PID of the all-inclusive PAT.

3. A method in accordance with claim 1, wherein said predetermined PID comprises PID 0X0000.

4. A method in accordance with claim 1, wherein:  
the all-inclusive PAT, the unused hidden PATs, and any of the subgroups not contained in the desired multiplexed data stream subgroup combination are discarded.

5. A method in accordance with claim 1, wherein the inbound multiplexed data stream comprises a plurality of multiplexed data streams.

6. A method in accordance with claim 5, wherein the plurality of multiplexed data streams are from a plurality of sources.

7. A method in accordance with claim 6, wherein the plurality of sources comprises two or more satellite feeds.

8. A method in accordance with claim 1, wherein the inbound multiplexed data stream is carried on a multiphase carrier having an I phase and a Q Phase.

9. A method in accordance with claim 8, wherein a first plurality of subgroups are carried in the I phase and a second plurality of subgroups are carried in the Q phase.

10. A method in accordance with claim 8, wherein the all-inclusive PAT comprises:

an all-inclusive I phase PAT carried in the I phase and corresponding to all services carried in the I phase; and

an all-inclusive Q phase PAT carried in the Q phase and corresponding to all services carried in the Q phase.

11. A method in accordance with claim 1, wherein the inbound multiplexed data stream is an MPEG data stream.

12. A method in accordance with claim 1, wherein the inbound multiplexed data stream is carried on one of a high data rate QPSK carrier or VSB carrier.

13. A method in accordance with claim 1, wherein the transcoder outputs an intermediate frequency data stream having a maximum data rate of about 27 Mbps.

14. A method in accordance with claim 1, wherein the transcoder outputs an intermediate frequency data stream having a maximum data rate of about 38.8 Mbps.

15. A method in accordance with claim 1, further comprising the steps of constructing the inbound multiplexed data stream at an encoder.

16. A method in accordance with claim 15, wherein the step of constructing the inbound multiplexed data stream comprises the steps of:

creating the all-inclusive PAT and the hidden PATs at the encoder; and

combining the all-inclusive PAT and the hidden PATs with the multiplexed data stream subgroups to create the inbound multiplexed data stream.

17. Apparatus for constructing a program association table (PAT) when reducing a multiplexed data stream, comprising:

a transcoder for receiving an inbound multiplexed data stream having an all-inclusive PAT, a plurality of predefined multiplexed data stream subgroups, and a plurality of hidden PATs, each hidden PAT identified by a unique packet identifier (PID) and associated with an allowable predefined combination of said multiplexed data stream subgroups; and

a processor associated with said transcoder; wherein:  
 said processor is coupled to receive from the  
 transcoder said all-inclusive PAT and said hidden PATs for  
 each multiplexed data stream subgroup combination;

the processor is configured to select one hidden PAT  
 corresponding to a desired multiplexed data stream subgroup  
 combination;

the processor determines the PID makeup of the desired  
 multiplexed data stream subgroup combination from the  
 selected hidden PAT;

the processor discards one or more of the all-  
 inclusive PAT, unused hidden PATs, and any subgroups not  
 contained in the desired multiplexed data stream subgroup  
 combination;

the processor causes the transcoder to re-map the  
 selected hidden PAT to a predetermined PID; and

the transcoder outputs the re-mapped PAT with the  
 selected multiplexed data stream subgroup combination.

18. Apparatus in accordance with claim 17, wherein the  
 predetermined PID comprises the PID of the all-inclusive  
 PAT.

19. Apparatus in accordance with claim 17, wherein said  
 predetermined PID comprises PID 0X0000.

20. Apparatus in accordance with claim 17, wherein:

the processor discards the all-inclusive PAT, the unused hidden PATs, and any of the subgroups not contained in the desired multiplexed data stream subgroup combination.

21. Apparatus in accordance with claim 17, wherein the inbound multiplexed data stream comprises a plurality of multiplexed data streams.

22. Apparatus in accordance with claim 21, wherein the plurality of multiplexed data streams are from a plurality of sources.

23. Apparatus in accordance with claim 22, wherein the plurality of sources comprises two or more satellite feeds.

24. Apparatus in accordance with claim 17, wherein the inbound multiplexed data stream is carried on a multiphase carrier having an I phase and a Q phase.

25. Apparatus in accordance with claim 24, wherein a first plurality of subgroups are carried in the I phase and a second plurality of subgroups are carried in the Q phase.

26. Apparatus in accordance with claim 24, wherein the all-inclusive PAT comprises:

an all-inclusive I phase PAT carried in the I phase and corresponding to all services carried in the I phase; and

an all-inclusive Q phase PAT carried in the Q phase and corresponding to all services carried in the Q phase.

27. Apparatus in accordance with claim 17, wherein the inbound multiplexed data stream is an MPEG data stream.

28. Apparatus in accordance with claim 17, wherein the inbound multiplexed data stream is carried on one of a high data rate QPSK carrier or VSB carrier.

29. Apparatus in accordance with claim 17, wherein the transcoder outputs an intermediate frequency data stream subgroup having a maximum data rate of about 27 Mbps.

30. Apparatus in accordance with claim 17, wherein the transcoder outputs an intermediate frequency data stream subgroup having a maximum data rate of about 38.8 Mbps.

31. Apparatus in accordance with claim 17, further comprising an encoder for constructing the inbound multiplexed data stream.

32. Apparatus in accordance with claim 31, wherein:

the encoder creates the all-inclusive PAT and the hidden PATs; and

the encoder combines the all-inclusive PAT and the hidden PATs with the multiplexed data stream subgroups to create the inbound multiplexed data stream.

33. A method for creating a multiplexed data stream which is to be reduced, comprising:

receiving a plurality of multiplexed data stream subgroups;

creating an all-inclusive PAT describing all the services contained in the plurality of data stream subgroups;

defining a plurality of data stream subgroup combinations;

creating for each defined combination of data stream subgroups a hidden PAT identified by a unique PID, each hidden PAT describing the services contained in said defined combination of data stream subgroups;

combining said all-inclusive PAT, said hidden PATs, and said data stream subgroups to create a multiplexed data stream.

34. Apparatus for creating a multiplexed data stream which is to be reduced, comprising:



an encoder; and  
a processor associated with the encoder;  
wherein:

the encoder receives a plurality of multiplexed data stream subgroups;

the processor generates an all-inclusive PAT describing all the services contained in the plurality of data stream subgroups;

the processor defines a plurality of data stream subgroup combinations;

the processor creates for each defined combination of data stream subgroups a hidden PAT identified by a unique PID, each hidden PAT describing the services contained in said defined combination of data stream subgroups; and

the encoder combines said all-inclusive PAT, said hidden PATs, and said data stream subgroups to create a multiplexed data stream.